

Students in UB MS in GIS program receive comprehensive training on spatial analysis, spatial statistics, geocomputation, spatial data science, and GeoAI.

Students can learn the following GIS and geospatial software tools:

GIS and spatial analysis programs	Courses (professors)
ArcGIS software suite (including both ArcMap and the latest ArcGIS Pro; Students learn spatial queries, map projections, spatial interpolation, 3D analysis, spatial statistics, geocoding, ...)	GEO 506: Geographic Information Systems (Bian/Hu/Yoo) GEO 507: Spatial Optimization (Yoo) GEO 519: Transportation (Metcalf) GEO 559: GIS for Environmental Modeling (Bian) GEO 597: Geo-statistics (Bian)
AnyLogic simulation tool (simulation platform to enable spatial dynamic modeling)	GEO 593: Dynamic Modeling of Human and Environmental Systems (Metcalf)
GeoDA (software package for spatial data analysis)	GEO 509: Multivariate Stats (Aldstadt)
ENVI/IDL software suite (remote sensing image processing)	GEO 553: Remote Sensing (Wang) GEO 653: Advanced Remote Sensing (Wang)
Google Earth Engine (cloud-based platform for processing remote sensing images)	GEO 503: Space Time Remote Sensing (Wang) GEO 653: Advanced Remote Sensing (Wang)
ORA and Cytoscape (network analysis software tools)	GEO 503: Network Analysis (Bian)
GeoProMT (a geospatial project management tool)	GEO 575: GIS Data Science Project Management (Renschler) (Please note that this course has a prerequisite (Intro to GIS) and is not based on a specific software program. The students are free to use whatever software they would like to use as part of their project.)
QGIS (an open source GIS software tool)	GEO 551: Cartography and Geographic Visualization (Stephens)